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Preface

This manual is designed to assist users in setting up and using the LCD Monitor. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic or other means, in any form, without prior written permission of the manufacturer.

FCC Statement Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning

Use only shielded signal cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Canadian DOC Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B repecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Important Safety Instructions

Please read the following instructions carefully. This manual should be retained for future use.

1. To clean LCD Monitor screen;
   -- Power off LCD Monitor and unplug the AC Cord.
   -- Spray a non-solvent cleaning solution onto a rag.
   -- Gently clean the screen with dampened rag.
2. Do not place the LCD Monitor near a window. Exposing the monitor to rain water, moisture or sunlight can severely damage it.
3. Do not apply pressure to the LCD screen. Excess pressure may cause permanent damage to the display.
4. Do not remove the cover or attempt to service this unit by yourself. Servicing of any nature should be performed by an authorized technician.
5. Store LCD Monitor in a room with a room temperature of -20° ~ 60°C (or -4° ~ 140°F). Storing the LCD Monitor outside this range could result in permanent damage.
6. If any of the following occurs, immediately unplug your monitor and call an authorized technician.
   * Monitor to PC signal cable is frayed or damaged.
   * Liquid spilled into LCD Monitor or the monitor has been exposed to rain.
   * LCD Monitor or the case is damaged.
7. A certified line is required to connect this device to a power outlet. For a nominal current up to 6A and a device weight above 3 kg, a line not lighter than H05VV-F, 3G, 0.75 mm^2 must be used.
8. For use only with power supply LINEARITY LAD6019AB4 and Li-shin, LSE0218B1260.

Chapter 1 Installation

Unpacking

Before unpacking the LCD Monitor, prepare a suitable workspace for your Monitor and computer. You need a stable and clean surface near a wall power outlet. Make sure that LCD Monitor has enough space around it for sufficient airflow. Though the LCD Monitor uses very little power, some ventilation is needed to ensure that the Monitor does not become too hot.

After you unpack the LCD Monitor, make sure that the following items were included in the box:

* LCD Monitor
* 1.8M Monitor-to-PC VGA Cable
* 1.8M Monitor-to-PC DVI-D Cable
* 1.8M Stereo Jack Audio Cable
* User's Manual
* AC Adapter
* 1.8M Power Cord

If you find that any of these items is missing or appears damaged, contact your dealer immediately.

Connecting the LCD Monitor and Base

When you open the box to take the base and put on the desk first. Then connect the LCD Monitor and base and screw it locked please. (See fig.1-1)

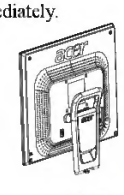


Figure 1-1

Viewing Angle Adjustment

The LCD Monitor is designed to allow users to have a comfortable viewing angle. The viewing angle can be adjusted from -5°to +20°.(See fig. 1-2).

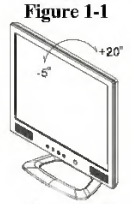


Figure 1-2

Warning: *Do not force the LCD Monitor over its maximum viewing angle settings as stated above. Attempting this will result in damaging the Monitor and Monitor stand.*

Detaching LCD Monitor from Its Stand

Unscrew screws ❶ the swivel base support column and pull it from main body.

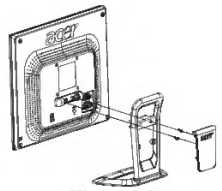


Figure 1-3

Interface for Arm Applications

Before installing to mounting device, please refer to Fig.1-3.
The rear of this LCD display has four integrated 4 mm, 0.7 pitches threaded nuts, as well as four 5 mm access holes in the plastic covering as illustrated in Figure 1-4. These specifications meet the **VESA Flat Panel Monitor Physical Mounting Interface Standard** (paragraphs 2.1 and 2.1.3, version 1, dated 13 November 1997).

Note :Please using Ø 4mm x 8mm (L) screw for this application

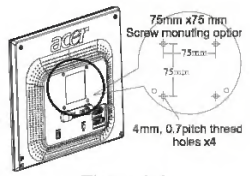
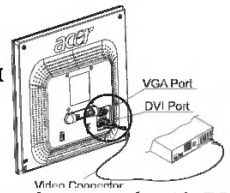


Figure 1-4

Connecting the Display to your Computer

1. Power off your computer.
2. Connect one end of the signal cable to the LCD Monitor's VGA port or DVI port.(See Fig 1-5)
3. Connect the other end of the signal cable to the VGA port or DVI port on your PC.
4. Make sure connection are secure.



Attention: *This device must be connected to an off-the-shelf video cable in order to comply with FCC regulations. A ferrite-core interface cable is included in the LCD Monitor package.*
This device will not be in compliance with FCC regulations when a non-ferrite-core video cable is used.

Connecting the AC Power

1. Connect the power cord to the AC adapter.(See Fig. 1-6)
2. Connect the AC adapter's DC output connector to the DC Power Jack of the monitor.
3. Connect the power cord to an AC power source.

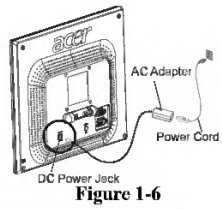


Figure 1-6

Warning: *We recommand to install a "Surge Protector" device between the AC Adapter and the electrical wall outlet for adding protection against power surges to prevent the errects of sudden voltage variations from reaching the LCD Monitor. Sudden power surges may damage your monitor.*

Connecting the Audio Cable

1. Connect the audio cable to the " LINE OUT " jack on your PC's audio card or to the front panel's "AUDIO OUT" jack of your CD ROM drive. (See Fig. 1-7)
2. Connect the other end of the audio cable to the LCD Monitor's " LINE IN " jack.

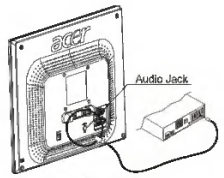


Figure 1-7

Setting Up the LCD Monitor

1.Make sure the AC power cord is connected to the LCD Monitor.
2.Turn on the LCD Monitor's power switch, located on the bezel of the monitor.

Power Management System

This LCD Monitor complies with the VESA DPMS (version 1.0) Power Management guidelines. The VESA DPMS provides four power saving modes through detecting a horizontal or vertical sync. signal.
When the LCD Monitor is in power saving mode, the monitor screen will be blank and the power LED indicator will light yellow.

Chapter 2 Display Controls

User Controls

A brief description and the location of all LCD Monitor function controls and indicators:

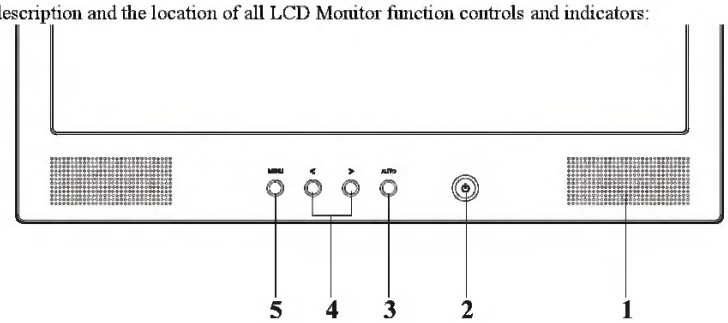


Figure 2-1

1	**Stereo Speakers**	PC Audio Stereo output.
2	⏻ **Soft Power Switch (DC Power-On Indicator)**	1. Press the soft power switch to switch the monitor ON/OFF. 2. LED lights Blue color --- Power is ON. 3. LED lights Yellow --- Monitor is in "Power Saving Mode". 4. LED is off --- Power is OFF.
3	**Auto**	1. Press the Auto Buttons Monitor will Auto-Adjusting. 2. Press the Auto Buttons over 2 second the Monitor Searching another source. (Switch digital or Analog input)
4	< > **Function Select and Adjustment Control Buttons**	1. Direct press either left or right control button can adjusting speaker Volume control. 2. When press after Menu buttons then Press either left or right control button for OSD first menu (left side) function selection. 3. When selection you want adjusting function then press Menu buttons again for OSD second menu (right side) function selection. You can Press the left button to decrease the OSD setting and press the right button to increase the OSD setting.
5	**Menu**	1. Press the Menu will show OSD (On Screen Display) Function Menus table. 2. When OSD (On Screen Display) Menus display press Menu Buttons will enable selection function.

Adjusting the Monitor's Display

The monitor has four function control buttons to select among functions shown on OSD menu, designed for easy user-viewing environments.

OSD Function Menu

To access OSD Main menu, simply press one of the Function Select control buttons, and the menu diagram will pop up on the screen as shown on Fig. 2-2:
Continue pressing the Function Select buttons to scroll through the entire menu items ,then press Adjustment Control buttons to adjust content of selected item.

Figure 2-2

Function Description

Analog RGB / Digital RGB

Picture		
	Auto adjust	Press > button, auto adjust the display mode to its utmost performance according to VGA setting.
	Brightness	Adjust the overall image and background screen brightness.
	Contrast	Adjust the image brightness in relation to the background.
	H-position	To move the picture image horizontally left or right.
	V-position	To move the picture image vertically up or down.
	Phase	To improve focus clarity an image stability.
	Clock	To increase or decrease the horizontal size of image.
	Exit	To exit the main menu.
Advanced		
	Sharpness	Adjusts the picture sharpness.
	Color	You have 4 kinds of options.
	Cool	This control adjusts the color temperature of the screen image, this item are preset by factory, you can not adjust these setting, The performance is bluer and brighter.
	Natural	This performance is reddish and closer to paper white.
	Warm	This performance is yellowish and closer to paper white.
	User	You can adjust the individual color intensity by yourself. Increase or decrease red, green or blue depending upon which is selected
	User red	Increase or decrease red.
	User green	Increase or decrease green.
	User blue	Increase or decrease blue.
	Exit	To exit the main menu.
Audio		
	Volume	This features adjusts < to decrease volume and > to increase volume.
	Mute	This features choose on or off to mute the sound.
	Exit	To exit the main menu.
Options		
	OSD	To move the OSD image.
	OSD H-position	To move the OSD image horizontally left or right.
	OSD V-position	To move the OSD image vertically up or down.
	Language	You can choose one of the nine languages you need.
	Exit	To exit the main menu.

Utilities		
	OSD timeout	You can select how long the monitor waits after the last adjust of the key to shut off the OSD menu. The time setting choices are from 5 to 60 seconds.
	Source icon	You can select on or off to display OSD icon.
	Exit	To exit the main menu.
Reset		
	Memory recall	Reset the currently highlight control to the factory setting. User must be using factory preset video mode to use this function.
	Exit	To exit the menu.
Exit		To exit the OSD menu.

Chapter 3 Technical Information

Specifications

LCD Panel

Size	15" (38.1 cm)
Display Type	Active matrix color TFT LCD
Resolution	1024 x 768
Display Dot	1024 x (RGB) x 768
Display Area (mm)	304.1 x 228.1 (H x V)
Display Color	6 bit driver
Brightness	250 cd/m^2 (typical), 200 cd/m^2 (minimum)
Contrast Ratio	500:1 (typical)
Response Time	Ta=25°C Tr+Tf=16ms (typical)
Lamp Voltage	670 Vrms (typical)
Lamp Current	8 mA rms. (typical)
Viewing Angle	Vertical: 40°(H), 50°(L) (typical) Horizontal: 60°(L), 60°(R) (typical)

Video

Input Signal	Analog RGB 0.7Vpp	Digital TMDS
Input Impedance	75 Ohm ± 2%	
Polarity	Positive, Negative	
Amplitude	0 - 0.7 ± 0.05 Vpp	TMDS
Multi-mode Supported	Horizontal Frequency: 30 ~ 60 KHz	30~64KHz
	Vertical Frequency: 56 ~ 75 Hz	56~75 Hz

Audio

Input Signal	500mVrms
Audio Power Output	1Wrms + 1Wrms Max
Speaker	2W 4Ω x 2

Control

Power switch (hard and soft types)	On/Off switch with LED indicator

OSD

Brightness	Digital
Contrast	Digital
Horizontal Position	Digital
Vertical Position	Digital
Phase	Digital
Clock	Digital
Display Mode Setup	Use EEPROM to save settings in memory
OSD Format	35 characters x 11 rows

Power Management

Mode	Power Consumption*	AC Input	LED Color
On	30W maximum	240 VAC	Green
Off	5W maximum	240 VAC	Yellow
Soft switch off	5W maximum	240 VAC	Dark
Disconnected	5W maximum	240 VAC	Yellow: Standby, Suspend, Off Dark: DC Power off

** Meeting VESA DPMS requirements measured from AC Input end of AC adapter.*

Sync Input

Signal	Separate TTL compatible horizontal and vertical synchronization Digital TMDS
Polarity	Positive and negative
Plug & Play	Supports VESA DDC1 and DDC2B functions

External Connection

Power Input (DC input)	+12VDC / 3.5A min. input through AC/DC adapter
VGA Cable	1.8M with 15-pin D-sub connector, 1.8M with 24-pin DVI-D connector
Audio Cable	1.8M with Stereo Jack

Environment

Operating Condition:	Temperature	5°C to 40°C/41°F to 104°F
	Relative Humidity	20% to 80%
Storage Condition:	Temperature	-20°C to 60° C/-4°F to140° F
	Relative Humidity	5% to 85%

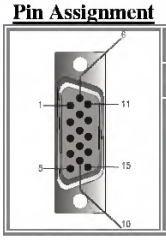
Power Supply (AC Input)

Input Voltage	Single phase, 100 ~ 240VAC, 50 / 60 Hz
Input Current	1.2 A maximum

Size and Weight

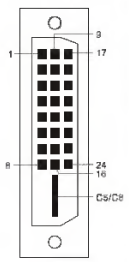
Dimensions	347.84 (W) x 341.67 (H) x 123.1 (D) mm
Net Weight	3.2 ± 0.3 kg
Gross Weight	5.2 ± 0.3 kg

Pin Assignment



Signal		Signal		Signal	
PIN	*Description*	*PIN*	*Description*	*PIN*	*Description*
1	Red	6	Red Rtn	11	NC
2	Green	7	Green Rtn	12	SDA
3	Blue	8	Blue Rtn	13	H. Sync.
4	Digital GND	9	+5V	14	V. Sync.
5	Digital GND	10	Hot Plug Detect	15	SCL

For Digital DVI-D connector



Signal13		Signal		Signal	
PIN	*Descrip14tion*	*PIN*	*Description*	*PIN*	*Description*
1	RX2-15	10	RX1+	19	Shield for TMDS Channel 0
2	RX2+	11	Shield for TMDS Channel 1	20	NC
3	Shield for TMDS Channel 2	12	NC	21	NC
4	NC	13	NC	22	Shield for TMDS Channel clock
5	NC	14	+5V	23	RXC+
6	SCL	15	Hot Plug Detect	24	RXC-
7	SDA	16	HPD	C5	GND
8	NC	17	RX0-	C6	GND
9	RX1-	18	RX0+		

Standard Timing Table

If the selected timing is NOT included in table below, this LCD monitor will use the most suitable available timing.

Resolution	H. Freq. (KHz)	V. Freq. (Hz)	Pixel Freq. (MHz)	H/V Sync. Polarity	Mode
640 x 480	31.469	59.940	25.175	-/-	VGA-480
640 x 480	37.861	72.809	31.500	-/-	VESA - 480 - 72Hz
640 x 480	37.500	75.000	31.500	-/-	VESA - 480 - 75Hz
720 x 400	31.469	70.087	28.322	-/+	VESA-400-TEXT
800 x 600	37.879	60.317	40.000	+/+	VESA-600-60 Hz
800 x 600	48.077	72.188	50.000	+/+	VESA-600-72 Hz
800 x 600	46.875	75.000	49.500	+/+	VESA-600-75 Hz
1024 x 768	48.363	60.004	65.000	-/-	XGA
1024 x 768	56.476	70.069	75.000	-/-	VESA-768-70 Hz
1024 x 768	60.023	75.029	78.750	+/+	VESA-768-75 Hz

Note: *When the in put display mode is not 1280 x 1024, the image is smoothly expanded to 1280 x 1024 dots with the PW131 scaling engine. After expansion from 640x480, 720x400, 800x600, and 1024x768 resolution, the text may look not so sharp, and the Graphics may look not so proportional.*

Troubleshooting

This LCD Monitor has pre-adjusted using factory standard VGA timings. Due to the output timing differences among various VGA cards in the market, users may initially experience an unstable or unclear display whenever a new display mode or new VGA card is selected.

Attention

This LCD Monitor Supports Multiple VGA Modes.

Refer to the Standard Timing Table for a listing of modes supported by this LCD Monitor.

PROBLEM Picture is unclear and unstable

The picture is unclear and unstable, please perform the following steps :

1. Enter PC to "Shut Down Windows" status while you're in MS-Windows environment.
2. Check the screen to see if there's any black vertical stripes appear. If there are, take advantage of the "Clock" function in OSD menu and adjust (by increment or decrement numbers) until those bars disappear.
3. Move to "Phase" function in OSD menu again and adjust the monitor screen to its most clear display.
4. Click "No" on "Shut Down Windows" and back to the normal PC operating environment.

PROBLEM There is no picture on LCD Monitor

If there's no picture on the LCD Monitor, please perform the following steps:

1. Make sure the power indicator on the LCD Monitor is ON, all connections are secured, and the system is running on the correct timing. Refer to Chapter 3 for information on timing.
2. Turn off the LCD Monitor and then turn it back on again. If there is still no picture, press the Adjustment Control button several times.
3. If step 2 doesn't work, connect your PC system to another external CRT. If your PC system Functions properly with a CRT Monitor but it does not function with the LCD Monitor, the output timing of the VGA card may be out of the LCD's synchronous range. Please change to an alternative mode listed in the Standard Timing Table or replace the VGA card, and then repeat steps 1 and 2.

PROBLEM There is no picture on LCD Monitor

If you have chosen an output timing that is outside of the LCD Monitor's synchronous range (Horizontal: 30 ~ 60 KHz and Vertical: 56 ~ 75 Hz), the OSD will display a "***Out of Range***" message. Choose a mode that is supported by your LCD Monitor.

Also, if the signal cable is not connected to LCD monitor at all or properly, the monitor screen will display a message "***No Input Signal***".